

CLAIMS

Therefore, having thus described the invention, at least the following is claimed:

- 1 1. An article carrying carton with two ends loaded with a plurality of
2 articles comprising:
 - 3 (a) said carton having a bottom panel, top panel and foldably
4 attached adjoining side panels with each end being an interlocking end which is
5 closed by a top end flap foldably attached to the top panel, a bottom end flap foldably
6 attached to the bottom panel and an angle panel foldably attached to each side panel
7 and a side end flap foldably attached to each angle panel, each said angle panel and
8 foldably attached side end flap constituting a side end closure, with each side end
9 closure having an aperture, with said side end closures being held together by
10 securing means;
 - 11 (b) two layers of articles with at least two rows of articles in each
12 layer; and
 - 13 (c) an interlocking separator pad with two ends, each of which is
14 an interlocking end, said pad having four angled corners, each of which is adjacent an
15 angle panel of the carton, said pad being located between the two layers of articles
16 with each end of the pad having an interlocking end portion of the pad that is
17 interlocked with said apertures in the side end closures on the end of the carton to
18 which said end of the pad is adjacent, with at least one end of the pad having a leading
19 flap that is folded into a plane which is at least substantially perpendicular to the
20 bottom panel of the carton.
- 1 2. The carton loaded with a plurality of articles of claim 1, in which the
2 means for securing each side end closure of the carton is by gluing the top end flap
3 and bottom end flap to the side end flaps.

1 3. The carton loaded with a plurality of articles of claim 1, in which the
2 articles are cylindrical containers with a curved circumference and with two ends with
3 an axis extending between the two ends, said axes of the cylindrical containers being
4 perpendicular to the separator pad, with the containers being arranged in each layer so
5 that each angle panel of the carton is adjacent to the curved circumference of a
6 container.

1 4. The carton with a plurality of cylindrical containers of claim 3, in
2 which each end of the separator pad has a leading flap.

1 5. The carton loaded with a plurality of cylindrical containers of claim 3,
2 in which each end portion of the separator pad is interlocked with the side end
3 closures on one end of the carton, in which the aperture in each side end closure is a
4 slot, with each interlocking end portion of a separator pad having a plurality of tabs,
5 each of which extends through a slot in a side end closure thereby interlocking the
6 separator pad with the side end closures, with each leading flap of the separator pad
7 being lodged between the side end closures on one end of the carton and an adjacent
8 layer of containers in the carton.

1 6. The carton loaded with a plurality of cylindrical containers of claim 5,
2 in which each side end closure has one slot and each end portion of the separator pad
3 has two tabs.

1 7. The carton loaded with a plurality of cylindrical containers of claim 3,
2 said carton having a dispenser flap which when removed provides an opening which
3 permits the removal of the containers from each layer, said dispenser flap formed by a
4 bottom tear line in a side panel which is at least substantially parallel to an end of the
5 carton and a top tear line spaced apart from said bottom tear line and is at least
6 substantially parallel thereto, said bottom and top tear lines extending into the
7 adjoining top panel and interconnecting each other and extending into the adjoining
8 bottom panel and interconnecting each other, said parallel tear lines being spaced
9 apart by a distance sufficient to permit the removal through said opening of a
10 container by a person.

1 8. The carton loaded with a plurality of cylindrical containers of claim 7,
2 in which said bottom tear line in the side panel of the carton is located from the
3 closest side end flap by a distance which is sufficient to prevent a container adjacent
4 the closest side end flap from rolling out of the opening formed when the dispenser
5 flap is removed when the carton is resting on the end where said closest side end flap
6 is located, but with said bottom tear line not being so far from said closest side end
7 flap to prevent the removal through said opening of a container adjacent said closest
8 side end flap.

1 9. The carton loaded with a plurality of cylindrical containers of claim 8,
2 in which the tear lines that extend into the adjoining bottom panel and adjoining top
3 panel of the carton extend into each said panel far enough to permit a person to grasp
4 the adjacent end of a container through the opening formed when the dispenser flap is
5 removed.

1 10. The carton loaded with a plurality of cylindrical containers of claim 9,
2 in which a tear line interconnects said bottom tear line and top tear line in said side
3 panel of the carton to facilitate opening said dispenser flap.

1 11. The carton loaded with a plurality of cylindrical containers of claim 10,
2 which has at least one finger flap in the dispenser flap adjacent to the tear line
3 connecting the top and bottom tear lines together in said side panel to facilitate tearing
4 the dispenser flap open.

1 12. The carton loaded with a plurality of cylindrical containers of claim 11,
2 which has a tear line in the bottom panel between the bottom tear line and the closest
3 bottom end flap and a tear line in the top panel between the bottom tear line and the
4 closest top end flap to enable a person to move that portion of the side panel between
5 the bottom tear line and the closest side end flap a sufficient distance to permit the
6 easy removal of containers from the opening formed by the removal of the dispenser
7 flap.

1 13. The carton loaded with a plurality of articles of claim 1, in which each
2 end portion of the separator pad is interlocked with the side end closures on one end
3 of the carton, said aperture in each side end closure being a slit in an end of the
4 closure remote from the side panel to which said side end closure is attached, with
5 each end portion of the separator pad being a leading flap which is interlocked with
6 the slits in the side end closures on an end of the carton by each leading flap
7 extending through the slits and folded into a plane perpendicular to the bottom panel
8 of a carton.

1 14. The carton loaded with a plurality of articles of claim 13, in which the
2 means for securing each side end closure of the carton is by gluing the top end flap
3 and bottom end flap to the side end flaps.

1 15. The carton loaded with a plurality of articles of claim 14, in which the
2 articles are cylindrical containers with a curved circumference and two ends with an
3 axis extending between the two ends, said axes of the cylindrical containers being
4 perpendicular to the separator pad, with the containers being arranged in each layer so
5 that each angle panel of the carton is adjacent to the curved circumference of a
6 container.

1 16. The carton loaded with a plurality of cylindrical containers of claim 15,
2 said carton having a dispenser flap which when removed provides an opening which
3 permits the removal of the containers from each layer, said dispenser flap formed by a
4 bottom tear line in a side panel which is at least substantially parallel to an end of the
5 carton and a top tear line spaced apart from said bottom tear line and is at least
6 substantially parallel thereto, said bottom and top tear lines extending into the
7 adjoining top panel and interconnecting each other and extending into the adjoining
8 bottom panel and interconnecting each other, said parallel tear lines being spaced
9 apart by a distance sufficient to permit the removal through said opening of a
10 container by a person.

1 17. The carton loaded with a plurality of cylindrical containers of claim 16,
2 in which said bottom tear line in the side panel of the carton is located from the
3 closest side end flap by a distance which is sufficient to prevent a container adjacent
4 the closest side end flap from rolling out of the opening formed when the dispenser
5 flap is removed when the carton is resting on the end where said closest side end flap
6 is located, but with said bottom tear line not being so far from said closest side end
7 flap to prevent the removal through said opening of a container adjacent said closest
8 side end flap.

1 18. The carton loaded with a plurality of cylindrical containers of claim 17,
2 in which the tear lines that extend into the adjoining bottom panel and adjoining top
3 panel of the carton extend into each said panel far enough to permit a person to grasp
4 the adjacent end of a container through the opening formed when the dispenser flap is
5 removed.

1 19. The carton loaded with a plurality of cylindrical containers of claim 18,
2 in which a tear line interconnects said bottom tear line and top tear line in said side
3 panel of the carton to facilitate opening said dispenser flap.

1 20. The carton loaded with a plurality of cylindrical containers of claim 19,
2 which has at least one finger flap in the dispenser flap adjacent to the tear line
3 connecting the top and bottom tear lines together in said side panel to facilitate tearing
4 the dispenser flap open.

1 21. The carton loaded with a plurality of cylindrical containers of claim 20,
2 which has a tear line in the bottom panel between the bottom tear line and the closest
3 bottom end flap and a tear line in the top panel between the bottom tear line and the
4 closest top end flap to enable a person to move that portion of the side panel between
5 the bottom tear line and the closest side end flap a sufficient distance to permit the
6 easy removal of containers from the opening formed by the removal of the dispenser
7 flap.

1 22. The carton loaded with a plurality of cylindrical containers of claim 5,
2 said carton having a dispenser flap which when removed provides an opening which
3 permits the removal of the containers from each layer, said dispenser flap formed by a
4 bottom tear line in a side panel which is at least substantially parallel to an end of the
5 carton and a top tear line spaced apart from said bottom tear line and is at least
6 substantially parallel thereto, said bottom and top tear lines extending into the
7 adjoining top panel and interconnecting each other and extending into the adjoining
8 bottom panel and interconnecting each other, said parallel tear lines being spaced
9 apart by a distance sufficient to permit the removal through said opening of a
10 container by a person.

1 23. The carton loaded with a plurality of cylindrical containers of claim 22,
2 in which said bottom tear line in the side panel of the carton is located from the
3 closest side end flap by a distance which is sufficient to prevent a container adjacent
4 the closest side end flap from rolling out of the opening formed when the dispenser
5 flap is removed when the carton is resting on the end where said closest side end flap
6 is located, but with said bottom tear line not being so far from said closest side end
7 flap to prevent the removal through said opening of a container adjacent said closest
8 side end flap.

1 24. The carton loaded with a plurality of cylindrical containers of claim 23,
2 in which the tear lines that extend into the adjoining bottom panel and adjoining top
3 panel of the carton extend into each said panel far enough to permit a person to grasp
4 the adjacent end of a container through the opening formed when the dispenser flap is
5 removed.

1 25. The carton loaded with a plurality of cylindrical containers of claim 24,
2 in which a tear line interconnects said bottom tear line and top tear line in said side
3 panel of the carton to facilitate opening said dispenser flap.

1 26. The carton loaded with a plurality of cylindrical containers of claim 25,
2 which has at least one finger flap in the dispenser flap adjacent to the tear line
3 connecting the top and bottom tear lines together in said side panel to facilitate tearing
4 the dispenser flap open.

1 27. The carton loaded with a plurality of cylindrical containers of claim 26,
2 which has a tear line in the bottom panel between the bottom tear line and the closest
3 bottom end flap and a tear line in the top panel between the bottom tear line and the
4 closest top end flap to enable a person to move that portion of the side panel between
5 the bottom tear line and the closest side end flap a sufficient distance to permit the
6 easy removal of containers from the opening formed by the removal of the dispenser
7 flap.

1 28. The carton loaded with a plurality of cylindrical containers of claim 5,
2 in which there are three rows of containers in each layer.

1 29. The carton loaded with a plurality of cylindrical containers of claim 15,
2 in which there are three rows of containers in each layer.

1 30. A carton with two ends for carrying a plurality of cylindrical
2 containers in two layers with at least two rows in each layer and an interlocking
3 separator pad for keeping the layers of containers separate comprising:

4 (a) said carton having a bottom panel, top panel and foldably
5 attached adjoining side panels with each end being an interlocking end which is
6 closed by a top end flap foldably attached to the top panel, a bottom end flap foldably
7 attached to the bottom panel and an angle panel foldably attached to each side panel
8 and a side end flap foldably attached to each angle panel, each said angle panel and
9 foldably attached side end flap constituting a side end closure, with each side end
10 closure having an aperture, with said side end closures being held together by
11 securing means; and

12 (b) an interlocking separator pad with two ends, each of which is
13 an interlocking end, said pad having four angled corners, each of which is adjacent an
14 angle panel of the carton, said pad being designed to be located between the two
15 layers of containers with each end of the pad having an interlocking end portion of the
16 pad that is interlocked with said apertures in the side end closures on the end of the
17 carton to which said end of the pad is adjacent, with at least one end of the pad having
18 a leading flap that is folded into a plane which is at least substantially perpendicular to
19 the bottom panel of the carton.

1 31. The carton and interlocking separator pad of claim 30, in which each
2 end portion of the separator pad is interlocked with the side end closures on one end
3 of the carton, in which the aperture in each side end closure on each end of the carton
4 is a slot, with each interlocking end portion of a separator pad having a plurality of
5 tabs, each of which extends through a slot in a side end closure, thereby interlocking
6 the separator pad with the side end closures.

1 32. The carton and interlocking separator pad of claim 31, said carton
2 having a dispenser flap which when removed provides an opening which permits the
3 removal of the containers from each layer, said dispenser flap formed by a bottom tear
4 line in a side panel which is at least substantially parallel to an end of the carton and a
5 top tear line spaced apart from said bottom tear line and is at least substantially
6 parallel thereto, said bottom and top tear lines extending into the adjoining top panel
7 and interconnecting each other and extending into the adjoining bottom panel and
8 interconnecting each other, said parallel tear lines being spaced apart by a distance
9 sufficient to permit the removal through said opening of a container by a person.

1 33. The carton and interlocking separator pad of claim 30, in which each
2 end portion of the separator pad is interlocked with the side end closures on one end
3 of the carton, said aperture in each side end closure being a slit in an end remote from
4 the side panel to which said side end closure is attached, with said separator pad
5 having two leading flaps which are interlocked with the slits in the side end closures
6 on the ends of the carton by each leading flap extending through the slits in the side
7 end closures on an end of the carton and folded into a plane perpendicular to the
8 bottom panel of a carton.

1 34. The carton and interlocking separator pad of claim 33, said carton
2 having a dispenser flap which when removed provides an opening which permits the
3 removal of the containers from each layer, said dispenser flap formed by a bottom tear
4 line in a side panel which is at least substantially parallel to an end of the carton and a
5 top tear line spaced apart from said bottom tear line and is at least substantially
6 parallel thereto, said bottom and top tear lines extending into the adjoining top panel
7 and interconnecting each other and extending into the adjoining bottom panel and
8 interconnecting each other, said parallel tear lines being spaced apart by a distance
9 sufficient to permit the removal through said opening of a container by a person.

1 35. A blank for a carton with two ends for carrying a plurality of
2 cylindrical containers in two layers with at least two rows in each layer and an
3 interlocking separator pad for keeping the layers of containers separated comprising:

4 (a) said carton blank having a bottom panel, top panel and foldably
5 attached adjoining side panel, with each end being an interlocking end which is closed
6 by a top end flap foldably attached to the top panel, a bottom end flap foldably
7 attached to the bottom panel and an angle panel foldably attached to each side panel
8 and a side end flap foldably attached to each angle panel, each said angle panel and
9 foldably attached side end flap constituting a side end closure, with each side end
10 closure having an aperture, with said side end closures being designed to be held
11 together by securing means; and

12 (b) an interlocking separator pad with two ends, each of which is
13 an interlocking end, said pad having four angled corners, each of which is designed to
14 be adjacent an angle panel of the carton, said pad being designed to be located
15 between the two layers of articles with each end of the pad having an interlocking end
16 portion of the pad that is designed to be interlocked with said apertures in the side end
17 closures on the end of the carton to which said end of the pad is to be adjacent, with
18 at least one end of the pad having a leading flap that is designed to be folded into a
19 plane which is at least substantially perpendicular to the bottom panel of the carton.

1 36. The blank and interlocking separator pad of claim 35, in which the end
2 portion of the separator pad is capable of being interlocked with the side end closures
3 on one end of the carton, in which the aperture in each side end closure is a slot, with
4 each interlocking end portion of a separator pad having a plurality of tabs, each of
5 which is capable of extending through a slot in a side end closure thereby interlocking
6 the separator pad with the side end closures, with each leading flap of the separator
7 pad being capable of being lodged between a side end closure of one end of the carton
8 and an adjacent layer of containers in the carton when the carton is formed and loaded
9 with containers.

1 37. The blank and interlocking separator pad of claim 35, in which each
2 end portion of the separator pad is capable of being interlocked with a side end
3 closures on one end of the carton, said aperture in each side end closure being a slit in
4 an end remote from the side panel to which said side end closure is attached, said
5 separator pad having two leading flaps which are capable of being interlocked with
6 the slits in the side end closures on the end of the carton by each leading flap
7 extending through the slits and folded into a plane perpendicular to the bottom panel
8 of a carton.

1 38. The blank and separator pad of claim 36, said carton having a
2 dispenser flap which when removed provides an opening which permits the removal
3 of the containers from each layer, said dispenser flap formed by a bottom tear line in a
4 side panel which is at least substantially parallel to an end of the carton and a top tear
5 line spaced apart from said bottom tear line and is at least substantially parallel
6 thereto, said bottom and top tear lines extending into the adjoining top panel and
7 interconnecting each other and extending into the adjoining bottom panel and
8 interconnecting each other, said parallel tear lines being spaced apart by a distance
9 sufficient to permit the removal through said opening of a container by a person.

1 39. The blank and interlocking separator pad of claim 37, said carton
2 having a dispenser flap which when removed provides an opening which permits the
3 removal of the containers from each layer, said dispenser flap formed by a bottom tear
4 line in a side panel which is at least substantially parallel to an end of the carton and a
5 top tear line spaced apart from said bottom tear line and is at least substantially
6 parallel thereto, said bottom and top tear lines extending into the adjoining top panel
7 and interconnecting each other and extending into the adjoining bottom panel and
8 interconnecting each other, said parallel tear lines being spaced apart by a distance
9 sufficient to permit the removal through said opening of a container by a person.

1 40. The carton loaded with a plurality of cylindrical containers of claim 3,
2 in which the top panel and bottom panel each have four angled corners, each of which
3 is adjacent an angle panel of the carton.

1 41. The carton loaded with a plurality of cylindrical containers of claim 5,
2 in which the top panel and bottom panel each have four angled corners, each of which
3 is adjacent an angle panel of the carton.

1 42. The carton loaded with a plurality of cylindrical containers of claim 15,
2 in which the top panel and bottom panel each have four angled corners, each of which
3 is adjacent an angle panel of the carton.

1 43. The carton with two end for carrying a plurality of cylindrical
2 containers of claim 30, in which the top panel and bottom panel each have four angled
3 corners, each of which is adjacent an angle panel of the carton.

1 44. The carton and interlocking separator pad of claim 31, in which the top
2 panel and bottom panel each have four angled corners, each of which is adjacent an
3 angle panel of the carton.

1 45. The carton and interlocking separator pad of claim 33, in which the top
2 panel and bottom panel each have four angled corners, each of which is adjacent an
3 angle panel of the carton.

1 46. The blank for a carton of claim 35, in which the top panel and bottom
2 panel each have four angled corners, each of which is adjacent an angle panel of the
3 carton.

1 47. A container carrying carton with two ends loaded with a plurality of
2 cylindrical containers comprising:
3 (a) said carton having a bottom panel, top panel and foldably
4 attached adjoining side panels with each end being an interlocking end which is
5 closed by a top end flap foldably attached to the top panel, a bottom end flap foldably
6 attached to the bottom panel and an angle panel foldably attached to each side panel
7 and a side end flap foldably attached to each angle panel, each said angle panel and
8 foldably attached side end flap constituting a side end closure, with each side end
9 closure having a slot, with said side end closures being held together by glue;

- 10 (b) two layers of cylindrical containers with at least two rows of
11 containers in each layer; and
- 12 (c) an interlocking separator pad with two ends, each of which is
13 an interlocking end, said pad having four angled corners, each of which is adjacent an
14 angle panel of the carton, said pad being located between the two layers of containers,
15 with each end of the pad having two tabs each of which extends through a slot in a
16 side end closure thereby interlocking the separator pad with the side end closures,
17 with at least one end of the pad having a leading flap being lodged between the side
18 end closures on one end of the carton and an adjacent layer of containers in the carton.

1 48. A container carrying carton with two ends loaded with a plurality of
2 cylindrical containers comprising:

- 3 (a) said carton having a bottom panel, top panel and foldably
4 attached adjoining side panels with each end being an interlocking end which is
5 closed by a top end flap foldably attached to the top panel, a bottom end flap foldably
6 attached to the bottom panel and an angle panel foldably attached to each side panel
7 and a side end flap foldably attached to each angle panel, each said angle panel and
8 foldably attached side end flap constituting a side end closure, with each side end
9 closure having a slit in an end of the closure remote from the side panel to which said
10 side end closure is attached, with said end closures being held together by glue;
- 11 (b) with two layers of cylindrical containers with at least two rows
12 of containers in each layer; and
- 13 (c) an interlocking separator pad with two ends, each of which is
14 an interlocking end, said pad having four angled corners, each of which is adjacent an
15 angle panel of the carton, said pad being located between the two layers of containers,
16 with each end portion of the separator pad having a leading flap which is interlocked
17 with the slits in the side end closures on an end of the carton by each leading flap
18 extending through the slits and folded into a plane perpendicular to the bottom panel
19 of a carton.